

with greyish hairs near the anus; the underside greyish white. Primaries brownish grey, crossed from the costal to the inner margin by eight reddish-brown bands edged with silvery white; some of the bands are almost broken into spots; the outer margin reddish brown: secondaries yellowish grey, mottled with darker grey near the apex.

Expanse 2 inches.

Hab. S.E. Peru, La Oroya, 3000 feet (*Mus. Druce*).

LVI.—*New Insectivores and Voles collected by*
Mr. A. Robert near Trebizond. By OLDFIELD THOMAS.

DURING the last quarter of 1905 Mr. Alphonse Robert, already so well known for his South-American collections, made a trip to Trebizond, in order to obtain series of the small mammals of that region, hitherto almost unrepresented in the British Museum.

Along the northern coast of this part of Asia Minor there is a strip of forest, some 50 miles wide, sloping northwards to the Black Sea from an altitude of 1500 to 2000 metres at its southern edge. The forest then abruptly disappears and an open steppe country commences, inhabited by Hamsters and Spermophiles, and continuous with the more desert countries further south.

Compared with this more open and desert country the coast-forest has a very different fauna, of a distinctly northern character. Moles and black-toothed shrews reach their most southern recorded limit here, while the occurrence of an *Erotomys* is the most striking piece of evidence in the same direction.

Mr. Robert's work was done at two localities in the heart of the forest-strip—Sumela, about 30 miles south of Trebizond, where he stayed at the monastery of the same name, and collected from about 1000 to 1300 metres altitude; and Scalita (or Metosh de Sumela), a village in the same valley as Sumela but about 3000 m. lower.

Collecting in this region proved to be a work of very great difficulty, owing both to the character of the people and to the distance from Trebizond, whence all provisions had to be brought. In spite of these drawbacks, however, Mr. Robert has sent home a beautifully prepared collection of over 300 specimens, belonging to about 24 species.

In working these out I have received great assistance from

the writings of Dr. K. Satunin, of Tiflis, whose many papers on the mammals of the Caucasus and Transcaucasia have been of the greatest service to me.

The following are the forms which appear to need new names, the most notable being the remarkable vole I have named in honour of its discoverer.

Talpa caeca levantis, subsp. n.

Size of true *caeca*—the brain-case lower and flatter.

External characters as usual, the eye-openings apparently not perforate.

Skull of the size characteristic of *T. caeca*, therefore markedly smaller than in any form of *T. europaea*. But, as compared with Italian specimens, the brain-case is lower and flatter, so that the height of the brain-case, measured with sliding compasses, is less instead of more than 9 mm.; and, as the flattening is mainly on the upper surface, the greatest breadth appears to be above instead of below the halfway line of the skull as viewed from behind. Interorbital inflation more marked than in true *caeca*, forming a more strongly developed convexity on the frontal profile.

Teeth apparently as in *caeca*, though the second premolar appears to average rather shorter.

Dimensions of the type (measured in the flesh):—

Head and body 122 mm.; tail 27; hind foot 17.

Skull: greatest length 31.5; basal length 27.2; zygomatic breadth 11; greatest breadth across brain-case 15.2; palatal length 13.5.

Hab. Scalita, S. of Trebizond. One specimen from Sumela.

Type. Old male. B.M. no. 6.3.6.5. Original number 2196. Collected 28 November, 1905. Three specimens.

This mole is interesting as agreeing so nearly in size of skull with the Southern European *T. caeca*, while one from the northern side of the Caucasus, obtained in 1891 by Mr. Littledale, has a greater cranial length (33.5 mm.), more as in *T. europaea*.

Crocidura leucodon lasius, subsp. n.

A long-tailed form of the European *C. leucodon*.

Size fairly large. Fur of back about 5.5 mm. in length. General colour above "mouse-grey," not so black as well-marked examples of *leucodon*. Sides and belly about "grey no. 8"; the boundary-line between the upper and lower colours high up on the sides, not so sharply defined as in the most

strongly marked German examples. Tail bicolor, decidedly longer than in European *leucodon*.

Third upper unicuspid slightly shorter than second, just equalling anterior basal cusp of p^4 .

Dimensions of the type (measured in the flesh):—

Head and body 75 mm.; tail 40; hind foot 14; ear 8.

Tails of other specimens are recorded as 38, 39, 39, 40, 40.

Skull: greatest length 20.2; greatest breadth across brain-case 9.7; length of upper tooth-series from front face of i^1 9.7.

Hab. Scalita, S. of Trebizond. Alt. 700–1000 m.

Type. Female. B.M. no. 6. 3. 6. 10. Original number 2175. Collected 20 November, 1905. Six specimens.

C. leucodon has not been previously recorded from this region. The present specimens seem to differ constantly from German and Swiss examples by their longer tails and rather greyer colour.

Crocidura russula monacha, subsp. n.

A long-tailed representative of *C. russula*.

Size about as in European *russula*. Fur of back about 5 mm. in length. General colour rather more smoky and less brown than in true *russula*, but the difference not strongly marked. Under surface light greyish, passing gradually, low down on the sides, into the dorsal colour. Tail comparatively long, markedly longer than in any known members of the *russula* group.

Dimensions of the type (measured in the flesh):—

Head and body 75 mm.; tail 44; hind foot 14; ear 7.

Skull: greatest length 19; greatest breadth across brain-case 9; length of upper tooth-series from front face of i^1 8.6.

Hab. Scalita, S. of Trebizond. Alt. 700–1000 m.

Type. Adult female. B.M. no. 6. 3. 6. 13. Original number 2209. Collected 3 December, 1905. One specimen.

It is noticeable that both the white-toothed shrews of Scalita are distinguished from their allies elsewhere by their longer tails.

Evotomys ponticus, sp. n.

A large species allied to *E. Nageri*.

Size about as in *E. Nageri*, or rather larger. General colour of the same dark rufous as in that species, with greyer rump and sides and buffy-washed belly. Tail heavily haired, black above and at the end, dull creamy below. Upper surface of hands and feet darker than in *Nageri* even in the oldest specimen, more or less brown in younger ones.

Skull large, smooth, and rounded, the brain-case more oblong than in the allied species, with less ridges and angles, and without any median frontal concavity, the upper profile being evenly and smoothly convex. Zygomata less boldly expanded anteriorly. Palatal foramina well open behind.

Teeth as usual in this group. Last upper molar with a long posterior lobe, curved round at its extreme hinder end to form a well-marked fourth internal angle to the tooth.

Dimensions of the type (measured in the flesh):—

Head and body 102 mm.; tail 54; hind foot 19; ear 13.

Skull: greatest length 25·3; basilar length 21·4; zygomatic breadth 13·2; length of upper molar series 5.

Hab. Forest-region south of Trebizond. Type from Sumela.

Type. Male. B.M. no. 6. 3. 6. 173. Original number 2087. Collected 29 October, 1905.

This, the first recorded *Evotomys* from anywhere near this region, belongs to the well-marked group of large species containing *E. Nageri*, *norvegicus*, and *skomerensis*. From any of these it is distinguished by its smoother and less ridged skull, without frontal concavity. In a specimen of *E. skomerensis* of similar age to the type, the crests, ridges, and median concavity are already well developed, so that although the type is not an old specimen it would presumably not have developed them.

Microtus Roberti, sp. n.

A large vole with a very long tail. Not a member of the subgenus *Arvicola*.

Size perhaps larger than in any known vole not an *Arvicola*. Fur of medium texture; hairs of back about 11 mm. in length. General colour above brown (nearest to mummy-brown). Below greyish (near smoke-grey) with a slight drabby suffusion. Ears fairly large, projecting well out of the fur. Upper surface of hands and feet glossy whitish, pollex with a very small and rudimentary nail, soles with six large and distinct pads. Tail very long, longer than in any vole not of the water-vole group, giving the animal rather the appearance of a rat than a vole; blackish above, grey below; the tip with a tuft of hairs 3–4 mm. in length. Mammæ 2—2=8.

Skull oval, smooth, and little ridged, the brain-case rounded above, not strongly angular; supraorbital ridges only approaching within 1 mm. of each other in the oldest examples. Palatal foramina evenly opened, the broadest point just in front of the centre. Posterior palate normally Microtine, the lateral pits deep. Bullæ large.

Upper incisors vertical as in *Microtus*, not thrown forwards as in *Arvicola*; first upper molar with five, second with four closed cement spaces, as usual. Third with four closed spaces, fifth and sixth spaces sometimes closed and sometimes opening into each other, or the sixth into the posterior C which follows; the tooth has therefore five well-marked angles on the inner side, and five, or four and a curve, on the outer. First lower molar with five angles on each side, five posterior closed spaces, and a complicated anterior one; this has two angles on each side of it, the intermediate re-entrant angle very deep on the inner, shallow on the outer side.

Dimensions of the type (measured in skin):—

Head and body 142 mm.; tail 100; hind foot 24; ear 16.

Other specimens have head and body 130, 130, 140, 141, and 148 mm., with tails respectively 84, 90, 92, 97, and 96 mm.

Skull: median length 30.5; basilar length 27; zygomatic breadth 17.3; nasals 8.7; interorbital breadth 4.3; palatilar length 15.4; diastema 9.5; palatal foramina 5.4; length of upper molar series (crowns) 7.

Hab. Sumela (type) and Scalita, south of Trebizond. Alt. 700–1300 m.

Type. Adult female. B.M. no. 6. 3. 6. 132. Original number 2114. Collected 2 November, 1905. Many specimens.

This fine vole, distinguishable at the first glance by its large size and remarkably long tail, is evidently very common, for Mr. Robert obtained a large series of it at both Sumela and Scalita. No vole with these unusual proportions, apart from the *Arvicola* group, appears to have ever been described, so that I cannot say to which it is most nearly related.

From any species of *Arvicola* it is at once separable by its slender form, long oval skull, and purely Microtine teeth.

I have very great pleasure in naming this fine species in honour of its discoverer, whose labours in Asiatic Turkey have been carried on in circumstances of even greater hazard and difficulty than he has ever encountered in South America. The fine results of his collecting-trip are a tribute to his capacity for overcoming such difficulties, whether human or climatic.

Microtus (Pitymys) Majori, sp. n.

A long-tailed species, with extra open enamel spaces on m^3 and m_1 .

Size, character of fur, and colour quite as in *M. leponticus*, Major. Hairs of back 9–10 mm. in length. General colour above of the same mummy-brown colour as in *leponticus*; under surface mostly slaty grey, washed with a pale (in some

cases almost clay-coloured) edition of the same brown. Ears fairly long for a *Pitymys*, projecting beyond the fur. Upper surface of hands and feet dull whitish. Tail unusually long for a member of this group, its upper surface blackish brown, its lower side dull whitish, becoming rather darker terminally. Mammæ 1—2=6, the anterior pair level with the hinder end of the sternum; no trace of a pair further up on the breast.

Skull very similar to that of *M. leponticus*. Slightly lower and flatter, the nasals a little more projected in front, so that the incisors are less visible from above; the zygomata rather less boldly expanded; the palatal foramen with their broadest point further back, at about the level of the suture.

Teeth with the same number of angles and spaces as in *leponticus*, but there is an unusual tendency for the spaces to communicate with each other instead of being closed. Thus the second and third spaces of m^2 and the same spaces of m^3 are commonly connected. Then in m_1 , not only is there the usual characteristic connection between the fifth and sixth from the back, but the second and third from the back are also commonly open, as also are the two middle spaces of m_2 . Anterior angles of m_1 , outer and inner, more strongly developed than in *leponticus*, practically equalling the angles behind them, thus making 6 internal and 5 external equally projecting angles; the antero-external one peculiarly turned down and pressed close to the second.

In some specimens there is a tendency to an additional posterior angle on m^2 , attaining in No. 2237 almost to the size of the extra lobes of *M. agrestis*.

Dimensions of the type (measured in the flesh):—

Head and body 97 mm.; tail 42; hind foot 17; ear 10.

Other examples have head and body 94, 98, 100, 103, 105 mm., with tails respectively 37, 37, 44, 45, and 39 mm.

Skull: length in middle line 24; basilar length 21.2; zygomatic breadth 13.8; palatal foramina 4.1; length of upper tooth-row 5.7.

Hab. Sealita and Sumela, south of Trebizond. Altitude 700–1300 m. Type from Sumela.

Type. Male. B.M. no. 6. 3. 6. 148. Original number 2085. Collected 29 October, 1905. Many specimens.

No member of *Pitymys* has been described from this region, while those geographically nearest, such as *M. Thomasi*, Major, belong to the short-tailed group, and are widely different in the shape of the skull. The nearest allies of *M. Majori* appear to be the group of species to which the N.-Italian *M. leponticus* belong, and I have therefore drawn the description in contrast to that, of which the Museum

possesses the typical series. That species has been only recently described by Dr. Major, who has always taken a very special interest in the present group of voles, so that I have had great pleasure in naming after him this peculiar little species, discovered by his kinsman Mr. Robert.

The presence of a pectoral pair of mammæ is a very unusual character in *Pitymys*, which is usually said to have only the two inguinal pairs. The tendency to have extra molar enamel spaces connecting with each other is also an interesting point about this species, even though variable to a certain extent.

LVII.—A Third Genus of the *Ichthyomys* Group.

By OLDFIELD THOMAS.

In a small collection of Costa Rican animals just received from Mr. C. F. Underwood there occur two specimens of a remarkable new Rodent, the subject of the following description:—

RHEOMYS, gen. nov.

General external characters as in *Ichthyomys*. Muzzle below nostrils complete, not cleft, and entirely hairy, without trace of a naked median groove. Ears present, but very small, buried in the fur. Feet apparently rather more broadly webbed, the webs as well as the toes fringed with bristles.

Skull smoothly rounded, little ridged, less modified in general outline than in either *Ichthyomys* or *Auotomys*; the profile normal and the nasals not bent upwards. Nasal opening high and narrow. Anterior zygoma-root as in *Ichthyomys*; the anteorbital foramen even more widely open. Pterygoids in normal proportion to each other—in *Ichthyomys* the entopterygoid is unusually developed and the ectopterygoid almost obsolete.

Incisors quite normal, narrow, slightly but evenly rounded in front, not unlike those of *Akodon* or *Peromyscus*, therefore strikingly different to the peculiar incisors of *Ichthyomys*, fully described in 1893*. Lower incisors narrow, slender, and pointed, though less so than in *Auotomys*. Molars as in *Ichthyomys*.

Type. *Rheomys Underwoodi*, described below. "*Ichthyomys*" *trichotis*, Thos., is also a member of *Rheomys*.

This genus, the third known of the group, is to the full as highly specialized for an aquatic life as *Ichthyomys* and

* P. Z. S. 1893, p. 337. *Auotomys* was described Ann. & Mag. Nat. Hist. (7) xvii. p. 86, January 1906.